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LEMUEL COX

BY
WALTER KENDALL WATKINS

LEMUEL COX^c

BRIDGE BUILDER AND INVENTOR

1736-1806

By
WALTER KENDALL WATKINS
MALDEN, MASS.

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A MEDFORD TAX PAYER. LEMUEL COX, THE
BRIDGE BUILDER AND INVENTOR.

BY WALTER KENDALL WATKINS, MALDEN.

JOHN COX, born, as he states in a deposition, on the east shore of the Kennebec River, just previous to King Philip's War, came later to Dorchester, where he married Susanna Pope and settled. At Dorchester was born his son William, who married in 1716, Thankful Maudsley, and had a numerous family, among whom was Unite Cox, born in 1723, who married Lydia Falkner, and settled in Malden, becoming the ancestor of those of the name still living in Malden.

The youngest brother of Unite Cox was Lemuel, born in 1736. Of his early days we know little or nothing till his marriage intention was published in Boston, 14 April, 1763, to Susanna Hickling, born 6 February, 1740, the daughter of William and Sarah (Sale) Hickling, of Boston, the great-grand parents of William Hickling Prescott, the historian. Sarah Sale was of a family very prominent in that part of Boston which later became Chelsea.

The older residents of Boston and vicinity, are familiar with the elevation known as Fort Hill, which disappeared just after our Civil war. It took its name from a fort, erected upon the hill in the early days of the colony, and which was utilized in Boston's first Revolution, when the people rebelled against Andros and shut him up in the fort. Near the fort was a large stone house, built by the Gibbs family, probably the largest and most pretentious, standing at that time in the colony.

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At the foot of the eastern slope of the hill was the South Battery, or Sconce, where the present Rowe's Wharf is located. Circling the base of the hill, inside the battery, was a walk from Milk street to Gibbs' lane (now Oliver street), called the "Battery March," a favorite walk for the townspeople.

On the other side of the hill were ropewalks, between Oliver street and Long lane (afterward Federal street).

Between Federal street and Summer street, were gardens and orchards, even as late as the last century.

At the foot of what is now Milk street was Oliver's dock.

It was in this vicinity, in 1765, that Lemuel Cox and his brother Jesse, bought a house and land of William Lowder. The lot was situated on the south side of Batterymarch street with a frontage of about eighty-four feet, and a depth of about one hundred and forty-five feet. In May, 1768, he bought thirty acres of land in Malden of his brother Unite, which he disposed of in December, to John Wait, Jr.

In the Spring of 1767 (30 May), we find him returning from South Carolina, on the schooner "Three Brothers," as "Mr. Lemuel Cox, wheelwright."

After the Boston Port Bill, the patriotic element, as we would call them now, though the government then styled them as turbulent and disloyal, met in gatherings in August each year, and dined at the Liberty Tree in Dorchester. Among the diners, 14 August, 1769, was Lemuel Cox.

As to the later sentiments of Lemuel Cox, investigators would be inclined to place him among those loyal to the Crown, as we find him in prison at Ipswich at the close of 1775, presumably for his attachment to the King's cause.

In the year 1767, the Overseers of the Poor, for the town of Boston, reported they had paid out about £600 to poor people outside of the almshouse, and in 1768 not less than £620. There were about two hundred and

thirty persons in the almshouse, and forty in the workhouse that should have been in the almshouse.

To relieve this situation it was proposed to employ two hundred of the poor of the town in spinning and carding. Schoolmistresses were to be procured and a number of spinning wheels and a quantity of wool; and the same to be converted into yarn to be disposed of to several persons, lately arrived from abroad, who had been brought up and were master workmen in the manufacturing of "shalloons, durants, camblitts, callamancos, duroys and legathies, and in general mens' summer ware," and who were determined to carry on business as soon as they could be furnished with a sufficient number of spinners to keep their looms employed.

The town contracted with Mr. William Molyneux to furnish spinning wheels and cards and teach the poor to spin, for the next two years.

One of the most important inventions in the manufacture of all textiles was that of machine-made cards. These were the leather and wire cards with which the revolving cylinders were covered. Hundreds of fine wire teeth are set in a square inch of leather. The leather is pierced, the wire cut and bent twice into a loop, then thrust through the leather and bent into two knees. The angle at which the wire teeth strike the fibre is an important element in carding. In making the "hand cards," used for ages past, all this work was painfully manipulated.

In 1770 Lemuel Cox invented a machine for cutting card wires, which machine was preserved by him through his lifetime.

Soon one, John McGlench, unduly got a sight of the same, improved upon it and claimed to be the original inventor. After the Revolution McGlench was located at the corner of Washington and Bedford streets, and there did business as a card maker. Others also went into the manufacture. Giles Richards & Co., wool and cotton card manufacturers, were located at 2 Hanover street in 1789.

By this invention of Cox at that early date, many thousands of pounds were saved to the Commonwealth by putting a stop to the importation of wool and cotton cards from Europe.

It was probably at about this time while experimenting with wire for cards that Cox was the first to produce in the state of Massachusetts wire for fish hooks, and instructed others in the first drawing of steel wire from half an inch down to the size of a hair.

As the fisheries were one of the staple industries of Massachusetts, the value of his efforts can be readily appreciated.

If disloyal during the Revolution, Cox was not so to a great extent or for a long period, as we find later that he was quite active in support of the patriots. After the war he petitioned the state for relief, and among other acts claimed to have established the first powder mill in the state during the war. Investigations have revealed where this mill was situated and that the first powder mill was at Andover, and they made powder there in the early part of 1776. Samuel Phillips, Junior, was the leading man in the enterprise but Cox's name not before appeared in print in connection with the works.

In Dorchester, afterward Stoughton, the Everendens were makers of powder previous to the Revolution, and in Stoughton the state established a powder mill, nearly as early as the Andover scheme. The state also contemplated later a mill at Sutton. There is also said to have been mills at Bradford and Seekonk.

Cox was prominently connected with the enterprise at Andover. He claimed to have put up the first powder mill in the state, and invented a machine for granulating the powder whereby one man could granulate five hundredweight in one day at the same time saving the labor of fifty men, and that he supplied the state with that necessary article at that time.

Of his connection with the Andover scheme we have

fortunately preserved to us a document of the strongest weight —

“Andover, February 20, 1790.

“This may certify that Mr. Lemuel Cox was employed in erecting the Powder Mill at Andover in the year 1776 that he discovered great mechanical ingenuity and rendered essential service in executing that work.

“SAMUEL PHILLIPS, Jun.”

Near the close of the Revolution, in October, 1782, we find Lemuel Cox was residing with his family at Taunton.

A petition signed by five hundred inhabitants of Boston resulted in a town meeting held Thursday, 10 February 1785, in Faneuil Hall, with Hon. Samuel Adams as moderator. The first article in the warrant was to consider a petition of Thomas Russell and others for liberty to build a bridge over Charles river, where the ferry from Boston to Charlestown then ran. A vote in favor was passed with only two dissenting among thirteen hundred voters present. It was also voted for a committee to prepare a petition to the General Court, and the town's representatives were instructed to support it. An act was passed, 9 March, 1785, by the legislature incorporating the scheme. John Hancock, Thomas Russell, Nathaniel Gorham, James Swan, Eben^r Parsons, and others, their associates, were those interested. The bridge was to be forty feet wide, with a draw at least thirty feet wide. They were to pay Harvard College annually £200, in compensation for the annual income of the Boston and Charlestown ferry. They were to receive certain tolls, which were to be double on Sunday.

Preparations for building the bridge were at once commenced. Major Samuel Sewall was appointed architect. He was of Marblehead and afterward, in 1814, chief justice of Massachusetts. At Concord, Massachusetts, however, there is the gravestone of Captain John Stone who died in 1791, which states he was the builder of the bridge. Lemuel Cox was appointed master work-

man. The stock of the company consisted of one hundred and fifty shares, the par value of each of which was £100, a total of £150,000. The first pier of the bridge was laid on the 14 June, 1785, and the last on 31 May, 1786, and the bridge was opened to the public 17 June, 1786. The bridge, as finished, was forty-two feet wide, upon seventy-five piers, each composed of seven oaken timbers, and four solid wharves and buttresses were laid with stone in different parts of the structure to sustain the wooden piers. It had on each side a passageway of six feet, railed in for safety, and was lighted at night by forty lamps, in lanterns mounted upon posts.

The opening of the bridge took place on that great Charlestown holiday, the anniversary of the Battle of Bunker Hill, 17 June, and was attended with great enthusiasm and the usual parade and festivities. At dawn of day thirteen guns, the number of the confederated states, were fired from Copps Hill in Boston, and Bunker Hill in Charlestown, as a federal salute. The bells in both towns were rung and the musical chimes of Christ Church in Salem street were pealed. A large procession of the proprietors, state officials, town officers and notables was formed at the Old State House, then the capitol. When the time came for moving, another federal salute was given from the Castle, and one from Copps Hill, as the cortege arrived at the draw of the bridge. Here the draw was fixed for their passage by Lemuel Cox, and the procession passed over it under a salute. On arriving at Charlestown it passed through the square and took its course to the battle ground of eleven years previous, and there received another salute of thirteen guns. On the historic field, untouched by improvements, a dinner was served to about eight hundred persons, seated at two tables of three hundred feet each, united by a semicircle, and festivities were continued till six o'clock in the evening. The number of persons viewing the celebration is supposed to have equalled the total

population of the two towns. The arrangements for the day surpassed any that had ever been known in the neighborhood before. The bridge subsequently passed into the hands of the state for \$25,000, 30 April, 1841. For his success Cox received a gratuity of \$200 extra.

The rude woodcut which adorned the head of one of the two broadsides circulated at the opening of Charles River Bridge was executed, as the printer says, by "that masterpiece of ingenuity, Mr. Lemuel Cox." It shows a detachment of artillery with cannon ready for firing, and a coach with four horses, and a footman behind, driving at full speed over the bridge. To do justice to the occasion of the opening there was issued a poem of forty stanzas of which the following are a sample:—

1. "The Smiling morn now peeps in view,
Bright with peculiar charms,
See, Boston nymphs and Charlestown too
Each linked arm in arm.
2. "I sing the day in which the BRIDGE
Is finished and done,
Boston and Charlestown lads rejoice,
And fire your cannon guns.
3. "The BRIDGE is finished now I say,
Each other bridge outvies,
For London Bridge, compar'd with ours
Appears in dim disguise.
* * * * *
23. "Now Boston, Charlestown nobly join,
And roast a fatted Ox
On noted Bunker Hill combine
To toast our Patriot Cox.
* * * * *
38. "May North and South and Charlestown all
Agree with one consent,
To love each one like Indian's rum,
On publick good be sent."

Powder and wire making were not the only benefits conferred on the public, beside bridge building, by Cox.

In 1785 it was found necessary, for the safety of the people to find some place, other than the common jails, for the confinement of persons convicted of larceny and other crimes. Castle Island in Boston Harbor was selected, it then being owned by the state. Here was a garrison (of which the governor of the state was the captain) stationed under an officer, usually of the rank of major (as a lieutenant), with a gunner, surgeon and chaplain and a detail of privates. The gunner was William Hickling, brother-in-law of Lemuel Cox.

The officers appointed an overseer, to superintend the convicts' labor, in repairing the fortifications and picking oakum and making nails. This employment of convict labor in nail making was the project of Lemuel Cox, and he sent one of his sons to instruct the convicts, sixteen in number. Of the commercial value of this industry there may be some question. The notorious Stephen Burroughs, in his interesting autobiography, interesting as showing a type of human character and throwing sidelights on the events of that day, gives his experience in nail making.

His daily output at first was five nails each day, but each nail, as he states, was equal to anything you ever saw, in beauty and elegance, but the cost of each he reckoned at ten times the cost of iron and coals. The overseer expostulated on the small returns from his labor and the next day he was more expeditious and made five hundred nails, but they were all "horns and heads." The prisoners were in the habit of taking the nail rods and breaking them and throwing the pieces down the well, and vowing they made all they could, in nails from the rods furnished. The authorities then offered a gill of rum to those making a certain number of nails from their supply of rods. Burroughs cautioned his fellow prisoners of the trap, but the offer of rum was too tempting, and all were participants except Burroughs of the extra bounty. The next day no rum was served and the convicts afterward were forced to fashion the

increased number of nails daily. The convicts remained on the island until about three weeks before it was turned over to the United States in 1798.

2 April, 1640, the inhabitants of Charlestown voted that Philip Drinker shall keep a ferry to Malden at the neck of land with a sufficient boat. For his services he had two pence for a single person and a penny each where there were more. This was the penny ferry of the first century and a half of the colony's existence.

The route by land from Charlestown or Cambridge was by the Mystic Bridge that crossed the Mystic River at Medford, and was the successor at an early date of the bridge built at the ford near Cradock's house in Medford. The Mystic Bridge was used by the Malden farmers for their cattle, teams and horses, and they contributed for many years towards its repair.

After the completion of the Charlestown Bridge some of the gentlemen interested became identified with a project to build a bridge from Charlestown Neck to the Malden shore near Sweetser's Point. Thomas Russell, Richard Devens, Samuel Swan, Junior, Jonathan Simpson and William Tudor, were granted by the legislature this privilege, 11 March, 1787. It was built in six months and cost £5,300. It was opened to travel 30 September, 1787, when a single cannon was fired and the workmen regaled with refreshments, a quiet affair compared with the 17 June celebration of Charles River Bridge the year before. The bridge was two thousand four hundred feet long, including the abutments, and thirty-two feet wide; the draw was the design of Lemuel Cox, and eight lamps lighted the bridge at night.

The instant success of two ventures in bridge building made a strong impression on the flourishing merchants of Salem and Beverly, and, 13 June, 1787, a subscription was started to build a bridge between those two towns. Two hundred shares were at once subscribed for, and sixteen towns in Essex County favored

it. Eighty-five poor widows of the Revolutionary War, resident in Manchester, with one hundred and thirty-five fatherless children, wanted it as a highway to Salem, where they carried their manufactured cloth. Danvers and a part of Salem opposed it. After a strenuous fight the project materialized, 17 November, 1787, with George Cabot, John Cabot, John Fisk, Israel Thorndike, and Joseph White as corporators. Before 1 March, 1788, they had contracted for pine and oak timber, made terms with Lemuel Cox to build the bridge, and settled other details.

Cox was to be paid nine shillings a day and his board (including punch) for superintending the work. 25 April they added to Cox's pay a gratuity of \$55, to be drawn when the bridge was done. About this time they contracted for ten gallons of New England rum, but it is probable that it was not all to be consumed by Cox.

From the first some trouble had grown up between Cox and the directors, and this culminated, 19 July, by a vote to dismiss him, "it appearing improper that Mr. Lemuel Cox should be continued in their service for any longer time," it was therefore voted unanimously that he be discharged and that the sum of \$55, being the whole of the gratuity promised to him, and his wages to this time, be paid to him in full.

With the advent of September the bridge was near completion. The first pier was raised 3 May, 1788, the last pier 6 September, 1788. It was opened for public travel 24 September, 1788; its cost was \$16,000. The bridge measured 1,484 feet without the abutments, which added thirty-six feet more. It had ninety-three piers, and a draw thirty feet wide, "which played with such ease that two boys of ten years old may raise it."

Here is one item of interest: the tolls were farmed, and when George Washington, as President, crossed the bridge, shortly after the opening, the proprietors had to pay \$7.80 tolls on Washington and his escort and suite to the lessee, Capt. Asa Leach, with whom Lemuel Cox had boarded while the bridge was building.

Lemuel Cox's neighbor on the west, on Batterymarch street, was Robert Hallowell, who was Comptroller of the Customs under the king and who left Boston on the evacuation of 17 March, 1776. After the war Hallowell returned to America, and resided in the next house to Cox's till he removed to Gardiner, Maine, in 1816, where he died in 1818. Hallowell, Maine, was named for him.

Cox did not live on Batterymarch street, in his house, after the Revolution. It was a wooden house of two stories, with fourteen windows, and covered six hundred and eighty square feet. The land contained 2,786 square feet, and the whole was valued at \$1,800 in 1798, and occupied by Dr. John Frederic Enslin, a physician. Cox sold his property on Batterymarch street in 1801 to Edw. Bartlett, Jr.

In June, 1788, the selectmen gave Lemuel Cox a license to sell liquors at his shop, near Charles River Bridge, and in 1789 we find Lemuel Cox, millwright, living on Prince street.

The census of the next year shows his family consisted of three white males over sixteen years, two white females over sixteen, and four white females under sixteen.

Cox severed his connection with the Essex Bridge Corporation in July, 1788. Between that date and June, 1789, he visited Ireland. It was probable his fame as a bridge builder had reached the Emerald Isle, and a desire for a bridge at Londonderry carried him to that town, probably in the spring of 1789, and he estimated the cost of a bridge there at £10,000. Receiving encouragement he returned to New England, and from Sheepscott, Maine, shipped a load of oak piles and twenty skilled workmen to complete the project.

His connection with the Cabots and others, directors of the Bridge Company, made him familiar with another enterprise some of the directors were also interested in. I refer to the cotton factory, established at Beverly,

which was mentioned, 6 January, 1789, "as a promising cotton manufactory," and it was stated apprentices were received as early as *June, 1789*.

It was in June, 1789, Lemuel Cox returned from Londonderry, and with him he brought, for the benefit of his country, as he states, a man, superintendent of a large cotton manufactory that had stopped working. With the man was his wife and "a curious machine whereon the Woman can spin fifteen pounds Cotton in one Day."

Being familiar with the needs of the Beverly manufacturers, Cox evidently saw an opening which he took advantage of.

We are left in doubt as to the final destination of the cotton spinner and his wife, but from the activity of the works in the following October, when Washington visited them, we are led to think the curious machine may have been utilized at Beverly.

His success in getting the machine from England was greater, from the fact the British government were quite strict at the time against the export of even the models of machines for manufacturing purposes.

In 1615 James I. granted to certain citizens of London, members of different livery companies or trade guilds, the town and fort of Derry, town of Coleraine, and other towns, villages, etc. They were known as the "Society of the Governor and Assistants, London, of the new Plantation in Ulster," and later as the "Irish Society."

Among other privileges they had the right of ferryage and passage over the rivers Ban and Foyle. In 1769 a bridge was projected, but not till 8 June, 1786, the Irish Society assented to the proposition for erecting a bridge at Londonderry over the river Foyle. This was just one week after the last pier was laid for Charles River Bridge and a week before it was opened for travel.

The probable success of the Boston enterprises without doubt was the cause of the determination to erect

the Irish structure after Cox had finished his labors at home, and it was not until 29 April, 1789, that we hear further as to the Irish enterprise. It was then reported that the proposed timber bridge was estimated to cost £10,000. A memorial was then presented by the Corporation of Londonderry to the Irish Society, to obtain a lease of the tolls in perpetuity. On 15 July the Society granted the request. 11 December, 1789, the Society agreed to grant to the corporation a lease of the tolls in perpetuity, to enable the corporation to build a bridge and borrow money on the security of the tolls.

The bridge, commenced in 1789, was completed by the spring of 1792. It was 1,068 feet in length and forty in breadth. The piles of American oak had the head of each tenoned into a cap piece forty feet long and seventeen inches square, supported by three sets of girths and braces. The piers were sixteen and one-half feet apart and bound together by thirteen string-pieces, equally divided and transversely bolted, on which were laid the flooring. On each side the platform was a railing four and one-half feet high, also a broad pathway provided with gas lamps. Originally there was a draw-bridge, but it was replaced by a turning bridge. The original expense of its erection was £16,594. The work was a success, though an eminent English engineer, Milns, had pronounced it impracticable. On 6 February, 1814, a portion of the bridge three hundred and fifty feet in length was carried away by large masses of ice floating down the river, with a strong ebb tide, and high wind. The expense of the repairs of this damage was £18,208, of which the government advanced a loan of £15,000. The absence of Cox and his skilled workmen explain the increased cost of the labor. Seventy years ago the annual amount of tolls of the bridge was £3,700.

In 1782 Lemuel Cox mortgaged his house in Battery-march street to William Lowder, and this mortgage was discharged 22 October, 1790, probably by his first payment received in Ireland.

Mr. Cox probably felt that bridge builders, as well as prophets, received but small honor in their own country, from his experience at Salem. In Ireland, however, his fame must have increased and spread the length of the land, for his labors in the north were known in the south in those days of poor communication and religious differences.

At Waterford, on the southeast coast, a company was incorporated in 1793, who subscribed £30,000 in £100 shares to build a bridge over the Suir from the western extremity of the city to the northern suburb of Ferrybank, where is now the joint terminus of the Waterford, Limerick and Western and the Waterford and Central Ireland Railways. The work was begun 30 April, 1793, the year the bill was passed for relieving the Roman Catholics from disabilities and admitting them to the parliamentary franchises. The bridge was opened 18 January, 1794. It was built at a total cost of £27,000, including ferry rights, and as it was below the estimate, only £90 instead of £100 was paid on each share. It is still the property of a company, which annually receives over £6,000 in tolls.

The following inscription is on the bridge:—

A YEAR RENDERED SACRED TO NATIONAL PROSPERITY,
 BY THE EXTINCTION OF RELIGIOUS DIVISION,
 THE FOUNDATION OF THIS BRIDGE WAS LAID,
 AT THE EXPENSE OF ASSOCIATED INDIVIDUALS
 UNAIDED BY PARLIAMENTARY GRANT,
 BY SIR JOHN NEWPORT, BART.:
 CHAIRMAN OF THEIR COMMITTEE,

MR. LEMUEL COX, A NATIVE OF BOSTON IN AMERICA, ARCHITECT.

The bridge is eight hundred and thirty-two feet in length and forty in breadth, supported on stone abutments and forty sets of piers of oak piles.

The next undertaking of Lemuel Cox was the bridging of the river Slaney to connect the northern end of Wexford town with the opposite bank. It was commenced in 1794 and finished the next year, being built throughout of American oak, and 1,571 feet in length. The expense of the work was £17,000. It has since

been superseded by stone causeways projecting from the opposite banks of the river, of the respective lengths of one hundred and eighty-eight and six hundred and fifty feet, connected by a length of timber structure seven hundred and thirty-three feet long. A quarter mile higher up has been erected a modern bridge. A picture of the old bridge is preserved by the bridge commissioners' seal.

At New Ross, County Wexford, the Barrow river, after the destruction of an old bridge in 1634, was crossed by a ferry until the fame of Cox as a bridge builder reached the town, when a company was incorporated by act of Parliament and £11,200 raised by shares and a bridge of American oak constructed by Cox. Its length was five hundred and eight feet and its breadth forty feet; it had a drawbridge and connected New Ross with Rosshercon.

While in Ireland, Mr. Cox's family resided in Medford, and we find him taxed for real estate there in 1793-4-5. We extract the following item from the *Columbian Centinel* of 15 January, 1794:—

“14 January a son of Mr. Cox, the celebrated architect, in viewing a wild panther which a show man had in his possession in Medford was suddenly seized by the voracious animal and his head and face torn in a shocking manner so that his death would be a consolation to his desponding relatives. The strength of the animal was so great that five persons could hardly disengage his claws.”

Two of the sons of Mr. Cox were in Ireland with their father, Lemuel and William Cox. The latter married, in 1794, Catherine Hugone, in Dublin. A letter written by him in 1794 to the editor of the *Columbian Centinel* is still preserved in print.

MR. COX. THE ARTIST.

In a late *Centinel*, a paragraph, extracted from a Dublin paper, gave some account of Mr. Cox, the celebrated bridge architect, having been tried in a judicial Court, in that city, on a charge of enticing artizans to quit Ireland. We are happy, by being in pos-

session of letters from the son of that gentleman (Wm. Cox) now in Europe, to give some explanatory intelligence on the subject and present the following Extract of a letter dated Liverpool, May 29:—

“As bad news always flies fast, I suppose you may have heard, that my father was taken up and obliged to give bail in £2000 to stand trial for (as was said) having seduced artificers. It was not the case, but as follows:— Three tradesmen came to him and asked how their business would answer in America. He very candidly told them. They wished him to advance them money to take them over but he told them it was of no service to him their going over, but if it was and he should do it he would be liable to 500 fine and twelve months imprisonment. About three months after, one of these fellows took it into his head to lodge information against my father for which he stood trial and was honorably acquitted. The jury did not leave their box.” (*Columbian Centinel*, 23 Aug. 1794.)

In 1666, on the second of September, a fire broke out on Fish street hill in London which burnt over thirteen thousand houses, eighty-seven parish churches, six chapels, the Royal Exchange, Custom House, Guildhall, and other public buildings, among them fifty-two halls of the London Trade companies.

To commemorate this disaster Christopher Wren designed a column known as the Monument, which was built of Portland stone two hundred and two feet high and fifteen feet in diameter. During the eighteenth century it was used for astronomical purposes, but it was found that it vibrated, and the alarm was so great, about 1795, that tradition states that while in Great Britain Lemuel Cox was approached by the Corporation of the City of London to take down the structure as being unsafe, but his price being too high the shaft still stands as one of the sights of London.

25 February, 1790, Lemuel Cox prepared and presented to the Massachusetts Legislature the following petition, some of the facts of which I have already presented:—

"COMMONWEALTH OF MASSACHUSETTS.

"To the Honorable the Senate and House of Representatives in General Court assembled.

"The petition of Lemuel Cox of Boston in the County of Suffolk, millwright, Humbly Sheweth —

"That in the year of our Lord 1770 your petitioner invented a machine for cutting card wires which machine he hath now by him.

"That one John McGlinch and many others unduly got a sight of same and improved upon the same and then pretended to be the Original Inventors of such machine, whereby many thousand of pounds has been saved to this Commonwealth by putting an entire stop to the importation of Wool and Cotton Cards.

"That your petitioner in the late War put up the first powder mill in this state.

"That he invented a machine for granulating the powder whereby one man could granulate 500 weight in one day and at same time saved the labor of 50 men and supplied the state with that necessary article at that time.

"That your petitioner is the sole inventor of the three draws on the late bridges in this state each upon different constructions whereby the conveniency of Vessels are greatly expedited in passing thro the Bridges.

"That your petitioner was the first projector of employing the prisoners at Castle William in that valuable branch of Business of Nail making and that by the consent of the Commissary he sent his son to instruct the prisoners then at Castle William which were — 16 in number —

"That your petitioner lately constructed a wire mill for drawing steel wire for the making of fish hooks and that himself drew the first wire of that kind that ever was drawn in this state and that he instructed in the method of drawing that and all other kinds of wire from the bigness of half an inch down to the size of a hair.

"That your petitioner gave encouragement and (for the benefit of his country) and brought over with him from Ireland in June last a man and his wife with a curious machine whereon the woman can spin fifteen pounds cotton in one day. That the man was the superintendent of a large Cotton Manufactory that had stopped working and that they were Recommended by a number of Gentlemen of the first character in the City of Londonderry.

"That your petitioner by reason of his attention to matters of Original inventions and by reason of his many losses and misfortunes humbly begs leave to say to your Honors that he is yet a Poor Man.

"LEMUEL COX."

This petition, written shortly after some of the events recited, received favorable action, and a grant was finally made, 26 January, 1796, of lands in the eastern parts, in the district of Maine, amounting to one thousand acres.

If the claims recited had not been true, parties interested were still alive, and could have refuted the statements in his petition.

The delay in passing the resolve can be readily explained by the necessary absence of the petitioner in Ireland, where he was bridge building.

The committee appointed in 1790 reported favorably, and that he should have one thousand acres in township No. 7, bordering on Gouldsborough, Maine. This land, shortly after the grant, was disposed of by him to one of the Amory family of Boston.

William Priest was an English musician who came to Boston to play at the Haymarket Theatre in 1796, and kept a journal, which he published in 1802. He mentions being introduced to Cox, the celebrated bridge builder:

“Cox told him he constructed his bridges of wood and always endeavoured to give as little resistance to the water as possible the supports being numerous but slender with intervals between.

“The idea first came to Cox from reading *Æsop's* fable of the ‘Reed and the Oak.’ The tempest bent the reed and tore up the oak by the roots.

“He served his apprenticeship to a carpenter and it was late in life before he attempted bridge building. He proved his new theory on a small bridge in the country with success.

“He then contemplated the Charles River Bridge, a subscription was raised and the bridge built, he was rewarded with \$200 above his contract.

“He built seven bridges in Ireland the largest at Londonderry, 1860 ft long.”

He also states that Capt. John Stone, of Concord, Mass., was the architect of Charlestown Bridge.

At Reed's Corner, at and near the junction of Main, Eden, and Mill streets, Charlestown, a century and more ago, was Mill Village. Mill Lane ran westward,

and in the middle of the eighteenth century led to the mills and mill pond, now made land.

At that time the mills were the property of Capt. Robert Temple, grandson of Sir Purbeck Temple, of Stanton Bury, Bucks, England. From the first settlement of Charlestown, Mill Lane had led to the mills and the mill pond, and near by was Mill Hill.

The Webb family were here as millers, shortly after 1700, coming from Braintree. Benjamin Stokes was the miller in the middle of the century, and purchased a share in the mills from Robert Temple, and the balance from his widow in 1757. William Paine, miller, bought five acres of Robert Temple in 1768, and was the executor of Benjamin Stokes on his death.

At the Battle of Bunker Hill part of the mill buildings were destroyed, and the balance by the Americans in January, 1776, during the siege of Boston, as a military necessity. The buildings were eight in all. A large double dwelling, barn 30 x 18, a mill house with two grist mills, store 60 x 24, another 30 x 16, a fulling mill with three pairs of stocks, a smoke house, wharf, and gates to the mill pond. The lot were valued at £800. At the corner of Main and Mill streets was the Cape Breton Tavern.

Diana, daughter of William Paine, married Thomas Adams in 1768, and after his father-in-law's death Adams bought, in 1792, of the widow, Mary Paine, five acres north of where the mill stood. On his death his widow, Diana Adams, sold this to William Hawes and Lemuel Cox in 1797, and Cox bought Hawes' interest in 1801.

The Mallett family also had mills and land in the vicinity, and from Isaac Mallett's executors Lemuel Cox bought two and one-half acres in 1798. Soon after this he erected mills, which he leased in 1801 and 1802. In 1803 he sold the mill estate bought of Adams (except the lots leased and sold) to the Middlesex Canal proprietors.

In 1801 a bridge was contemplated between Boston and East Boston, about where the tunnel now runs

under the river. A shoal running out from the Boston side, it was the opinion of Lemuel Cox, who was consulted in the matter, that there was no doubt of the stability of a bridge properly erected at that place.

This scheme was in the place of the projected Chelsea Bridge, and would save a distance of at least three-fourths of a mile on the route to Lynn, and the tolls of the Charlestown Bridge. The proposed Navy Yard at Charlestown killed the East Boston Bridge project. If it had been erected the Navy Yard would have been located lower down the river, and large ocean steamers would not now lie at the Charlestown docks.

In 1803, at a town meeting of Nantucket, it was voted to petition Congress to assist the town in digging a channel from Brant Point to the outer bar. Some desired to include in the scheme the building of stone piers from Coatue Point and Brant Point to the outer bar.

A survey of the harbor was made in the summer of 1803 by John Foster Williams and Lemuel Cox, and they reported it would be expedient to build wooden piers to protect the channel, one to extend from the northwest point of Coatue to the southwest corner of the black flats, the other to begin about one-third of the distance from the end of Brant Point to the Cliff and to extend to the northeast corner of Cliff Shoal, both upon straight lines. A report was made to the Federal government, 28 October, 1803, but the scheme was not accomplished.

Of the family of Lemuel Cox, we know that William, who married in Dublin, died in Savannah.

Lemuel, who also visited Ireland, became a sailor. On a voyage to the Pacific he, with two others, while exploring a river, was deserted by his vessel and never heard of afterward. He left a widow and two children. Lemuel Cox, wheelwright, of Charlestown, was administrator of the estate of Lemuel Cox of Boston, mariner, 30 July, 1799, and it was, therefore, previous to that date the son disappeared.

John Sale Hickling Cox married, 16 June, 1803, at the Hollis street church, Nancy Lewis, *b.* 7 May, 1778. His wife died a few months after the wedding, 10 December, 1803. He was a lieutenant in the war of 1812, and resided in Reading.

Nancy Lewis and her brother Isaiah were children of Winslow Lewis, and their nephew was the late Dr. Winslow Lewis.

After the war J. S. H. Cox married Mrs. Arabelle Percelle, and lived in Charleston, S. C. He had two sons, Roland and William.

James Cox lived in New Bedford, where he married a Miss Tabor, a Quakeress. He moved to Ohio, where he died, leaving three sons.

His son Lemuel, a beneficiary by Lemuel Cox's will, sold his share in the estate of Lemuel Cox, deceased, to Rufus Bracket in 1827, his cousin Mary Ann Dadley's husband, as did the other grandchildren.

Susanna Hickling Cox married, 10 November, 1793, Simon Tufts of Medford, and had Eliza, Rhoda, Harriet L., Simon (*b.* 29 November, 1800), and Susanna H. Tufts. Eliza married Richard Brownell.

Harriet's name was changed to Harriet Lewis, and she married William Johnson, jeweller, lived in Boston and Quincy, and had Laura Ann Lewis, *b.* 8 November, 1806; Lavater, *b.* 6 March, 1809. (Being born after the death of Lemuel Cox they were, of course, not legatees.)

Elizabeth Brightman Cox married George Dadley in Medford, and had Mary Ann, James Lemuel Cox, and Eliza Dadley.

Mary Ann Dadley married, 29 June, 1818, Rufus Bracket, and Eliza Dadley married Rev. Josiah Brackett, a Methodist clergyman.

Harriet Ann Townsend Cox, *b.* 1784, *d.* 9 February, 1861. Her marriage intention to Capt. Isaiah Lewis was published 15 November, 1805; *m.* December, 1805, in Boston. He was *b.* 14 June, 1776; *d.* 20 April, 1822, at sea. They had —

- I. Susanna Hinkling Lewis, *b.* 24 August, 1806; *d.* — (intentions published 21 December, 1829); *m.* 24 February, 1830, to Joseph Willard of Lancaster (son of President Joseph Willard of Harvard University), clerk of the Superior Court. He was *b.* 14 March, 1798; *d.* 12 May, 1865. Their son, Major Sidney Willard, *b.* 3 February, 1831, was killed at Fredericksburg, 13 December, 1862.
- II. Isaiah William Penn Lewis, *b.* 15 June, 1808; *d.* 18 October, 1855, a topographical engineer, who introduced a mode of lights in our lighthouses in use during Civil War and after.

Lemuel Cox made his will, 18 January, 1806. He devised to his five children, John S. H., James, Susanna H. Tufts, Elizabeth B., and Harriet A. T. (Lemuel and William, being dead, were not named), \$1 each. To his grandchildren, an equal share of the residue. He died 18 February, 1806, and his will was proved 13 May, 1806. The inventory amounted to about \$20, and the estate was insolvent from the claims against it. In 1819 an account filed by the executor, Samuel Swan, Jr., of Medford, exhibits a house near Charlestown Bridge, and money from the Canal proprietors, which left a balance above his debts of \$2,555, to be divided into ten shares, and his grandchildren, as legatees, Eliza, Rhoda, Harriet, Simon, and Susanna Tufts; Mary Ann, James, Lemuel Cox, and Eliza Dudley; and Lemuel, son of James Cox, received each \$255.57.

In 1787, Ezekiel Decosta of Boston married Rebecca Hickling, the youngest sister of Lemuel Cox's wife. Their son, Ezekiel Carver Decosta, was the father of William Hickling DeCosta, editor of the *Charlestown Advertiser* for twenty-six years, and of Rev. Benjamin F. DeCosta of New York, an Episcopal clergyman.

John and Mary DeCosta were also living in Charlestown in 1797.

Of one of these families was, probably, Timothy Decosta, with whom Lemuel Cox boarded at the time

of his death. An item of \$489.13 for board was brought against the estate of Lemuel Cox, but it was contested, and a suit brought against the executor.

Other claims against the estate not allowed were one each of \$6,000 by William McKean, tobacconist, on Ship street, and his wife, and John Callender, a lawyer.

The executor of the estate, Captain Samuel Swan, was born in Charlestown in 1750. He was a mariner, and neighbor of Lemuel Cox at Mill Village, selling his house in 1803 to the Middlesex Canal proprietors and moving to Medford.

He was a soldier of the Revolution under General Lincoln, who appointed him quartermaster-general with rank of major during Shay's Rebellion. He was also a deputy collector of revenue under General Brooks.

When Cox's estate was pronounced insolvent, Laomi Baldwin and Asa Peabody were the commissioners appointed, but Baldwin soon resigned to go to Europe.

Bought by his daughter, Betsey Dudley, in 1803, after the sale of his mill property to the Middlesex Canal proprietors, Cox had a house on Main street near the Charlestown Bridge, now Charlestown Square. It adjoined the house in which Ammi Ruhamah Tufts lived, and was between that house and a new brick house built by the Hon. Thomas Russell, great-grandfather of the late Dr. John Langdon Sullivan of Malden, which stood on Water street, between Charlestown and Warren Bridges.

This large house, after Russell's death, became a hotel, known as "Gordon's," "Nichol's," "Charlestown Hotel," "Pierce's," "Brick Hotel" (1817), and finally, the "Middlesex Hotel," till burnt in 1835.

This fire of 28 August, 1835, the most destructive in Charlestown since the Battle of Bunker Hill, destroyed the house in which Lemuel Cox died.

"In Charlestown, Capt. Lemuel Cox, an eminent mechanic, aged 65. The funeral will proceed from his late dwelling house in Charlestown, tomorrow, at half past three o'clock; where his friends and relations are requested to attend without further invitation."

This was his obituary by the newspaper of the period.

My interest, primarily, in the subject of this sketch, was aroused from the credit given him as builder of Charlestown Bridge. I was, therefore, somewhat surprised when former Mayor Rantoul of Salem stated before the Essex Institute, of which he was the president, in an article on the Essex Bridge at its centennial, that the builders "made terms with Lemuel Cox, an eminent English engineer, to build the bridge." A few years later I read on Waterford Bridge, in Ireland, that it was built by "Mr. Lemuel Cox, a native of Boston, in America, Architect;" and visiting at the same time Wexford, New Ross, and Londonderry, I learned of his work there.

In recent years, in investigating, I found that he was not only with a claim for fame for his work in bridge building, but also for inventions, among them for his introduction of textile machinery, previous to the arrival of Samuel Slater, to whom the credit has been accorded in the histories of textile industries.

Traditions, after the lapse of a century, still show his type of character and tell of his life in Ireland and domestic life here; that he was a genius with the eccentricities of genius; that he returned from Ireland rich in money and beautiful gifts of every description, but died a poor man, under unhappy conditions.

